Response to Senate Bill 977 - The Removal of Glaucoma from the list of Qualifying Conditions

The Newaygo County Compassion Club is opposed to Senate Bill 977, the Removal of Glaucoma from the qualifying list of conditions approved in the Michigan Medical Marihuana Act of 2008. Glaucoma refers to a group of eye conditions that lead to damage to the optic nerve. This nerve carries visual information from the eye to the brain. In most cases, damage to the optic nerve is due to increased pressure in the eye, also known as intraocular pressure (IOP). Glaucoma is specifically listed as a qualifying condition in fourteen of the sixteen states that have approved marijuana for medicinal purposes. Michigan is one of the fourteen states that has Glaucoma as a qualifying condition and was listed in Proposal 1 in 2008 that was approved by Michigan voters by 63%.

Senate Bill 977, as proposed by Senator Rick Jones, would remove the condition of glaucoma from Michigan Medical Marihuana Act of 2008's list of qualifying conditions. If passed, this would be effective immediately. The conclusion that this condition should be removed from the list was from the opinions of the National Eye Institute, the Institute of Medicine, the American Academy of Ophthalmology, the American Glaucoma Society, and the American Medical Association.

Glaucoma is one of the leading causes of blindness, affecting more than 60 million individuals worldwide. A leading cause of optic nerve damage is intraocular pressure that may be relieved with the use of medical marijuana. Medical cannabis may help reduce or halt damage caused by intraocular pressure. Glaucoma also shows no warning signs in the early stages of the condition and it is estimated that almost 50% of the individuals with the condition due not know that they have it. Scientists have recently found that there are CB1 receptors in the eye, which may later prove that cannabis has further therapeutic properties than those just relative to Glaucoma.

When researching the different medical groups opinion on this plant, I realized that each and every medical based association was giving their review based on the same study. Even more alarming was that each of these groups give their opinion word for word the same as the next, an exact copy of the original opinion. It is easy to state that five different medical groups have the same opinion, when they all solely reviewed the exact same study without doing their own scientific research.

Legislation has been passed by certain states (with subsequent revocation in 1 state) that has led to a resurgence of interest in the evaluation of possible medical uses of marijuana. Extensive evaluations have resulted in 1 report to the director of the National Institutes of Health, and will result in another from the Institute of Medicine of the National Academy of Sciences. Furthermore, a meeting on this topic held in March 1998 at New York University School of Medicine, New York, will result in publication of a book in the spring of 1999. In many areas of interest, there is little but anecdotal material on which to rely, but in the area of glaucoma, there exists a substantial literature.

This study shows the lack of knowledge on the plant itself on both the medical community and the legislature. Tetrahydrocannabinol; a compound that is obtained from cannabis or is made synthetically; it is the primary intoxicant in marijuana and hashish. It is the psychoactive chemical in cannabis and is the chemical that reduces intraocular pressure in Glaucoma patients. To date, "THC" has been shown to prevent and cure a number of diseases, including cancer.

In the study, 11 patients were given 2% THC "Marijuana Cigarettes", commonly referred to as joints, were used. In between 1-5% THC marijuana is what is grown by the government for their studies and for the patients grandfathered in to be the first group of legal medical marijuana patients. The highest

government grown THC levels I found from an Freedom of Information Act inquiry on the National Institute of Drug Abuse was at 7%. In Michigan grown marijuana by "registered caregivers", the THC levels are higher. The levels that are found off medical grade indoor grown cannabis in Michigan vary from 10% to upwards of 25%. This type of range is similar to other states that have approved medical marijuana. If the THC level increases, the level off effect and lasting effect also increases. If 2% THC content in a "marijuana cigarette" can produce a 3-4 hour reduction according to this approved study, than one can be left to assume that if a glaucoma patient is inhaling a 15% THC "marijuana cigarette" the effects would last longer. This study is equivalent to someone attempting to see if a "Motrin 800" works to cure their headaches, but taking a "Motrin 64" instead. Furthermore, in this study, not all of the "marijuana cigarettes" were solely filled with cannabis. Some were tobacco cigarettes laced with Tetrahydrocannabinol. That fact alone should render this study useless as one already understands the associated risk with smoking tobacco and that tobacco is the leading cause of Lung Cancer worldwide, along with other types of medical issues. Finally, any study that is considered reputable should include more than eleven patients in the study. Eleven people hardly represent the sixty million people worldwide that suffer from Glaucoma.

In 1976, Robert Randall brought a lawsuit (Randall v. US) against the Food and Drug Administration, the Drug Enforcement Administration, the national Institute on Drug Abuse, the Department of Justice, and the Department of Health, Education, and & Welfare. Mr. Randall was afflicted with glaucoma. He had successfully used the Common Law Doctrine of Necessity to argue against charges of marijuana cultivation because it was deemed medical necessity. On November 24, 1976, federal Judge James Washington ruled: "While blindness was shown by competent medical testimony to be the otherwise inevitable result of the defendant's disease, no adverse effects from the smoking of marijuana have been demonstrated. Medical evidence suggests that the medical prohibition is not well-founded." Following a petition in May 1976 filed by Randall, federal agencies began providing him with FDA-approved access to government supplies of medical marijuana. He became the first American to receive marijuana for the treatment of a medical disorder. Shortly after, the government tried to prevent his legal access. In 1978, he filed a lawsuit. This resulted in an out of court settlement 24 hours later, which resulted in Randall gaining prescriptive access to marijuana through a federal pharmacy near his home. Because of this settlement, this became the legal basis for the FDA's Compassionate IND program. Although the program was terminated, certain patients were grandfathered in and are still receiving medicine from the Federal Government. One of those patients is Elvy Musikka, a Glaucoma patient. She became a patient in October of 1988, almost 24 years ago. She receives 8 ounces of rolled marijuana per month for medical purposes.

The story of Elvy Musikka is the story of many Glaucoma patients in the United States. She suffered from severe intraocular pressures and was given both oral and eye drop prescription medication. The eye drops were painful & burning and the oral medication left her so comatose that she could barely care for herself, let alone the children she had custody of. Although her doctor was torn between his Hippocratic Oath and Hippocratic Laws, he recommended cannabis. When Elvy could not find any on her own, the doctor's secretary obtained it for her. She baked it into batches of brownies and only used two brownies a day to reduce her pressure. When she could not find any cannabis and her intraocular pressures were higher than usual, she went to the hospital. They recommended she have emergency surgery the next day. She went home and ate her last brownie. Her pressure levels went from 55 and 60 the night prior reduced to 14 and 16 when she had her pre-op appointment. She agreed to have the surgery, which left her with bottle cap glasses, higher pressures, less eye sight, and more scar tissue. Because of the surgery she was unable to return to work. Years later, she was accepted into the Compassionate IND program. She is now regaining sight in her right eye, her pressures are consistent in

her left eye and can see colors, shapes, sizes, et cetera, and is no longer suffering from depression or insomnia. This is the story of many Glaucoma patients in Michigan. Whether cannabis is used with pharmaceutical medications or by itself, Michigan patients are being provided with relief from cannabis. With Michigan medical grade cannabis, the need for inhaling or ingesting cannabis due to higher THC levels are also less throughout the day.

The Harper & Frank study (1971) found that oral and smoke cannabis reduced intraocular pressures in normal subjects for about 4 to 5 hours without deleterious effects on vision or ocular structure. They concluded that cannabis may work better than traditional medication and probably works by a different mechanism.

Dr. Reese Jones, a professor at the Langley Porter Institute, University of California, San Francisco pointed out a number of issues that complicate the so-called clinical studies of smoked marijuana, including the difficulty of designing a blind trail, and the near impossibility of quantifying and standardizing the dosage of a drug that a study participant smokes (and thereby self doses). "It's the nature of smoking that people dose themselves. That's one of the advantages of it. But it does present a problem in designing these studies. In order to get reliable data, a patient must smoke the same way, every time, which is virtually impossible." Dr. Paul Palmberg, a professor of Ophthalmogy at the Bascom-Palmer Eye Institute, University of Miami School of Medicine, reported his success with a glaucoma patient who smoked marijuana as a part of a compassionate use agreement with the Food and Drug Administration in the 1970s. He said that the patient's symptoms were relieved -- with no ill side effects or intoxication. Both doctors spoke at a National Institute of Health workshop regarding medical cannabis on glaucoma.

While the American Medical Association states that they do not believe that cannabis is better than using "conventional" prescriptions for Glaucoma, they do support the research that has shown that glaucoma patients experience a reduction of intraocular pressure for intervals of 3-4 hours when using cannabis, per the original study reviewed. The AMA has more recently changed their associations views on cannabis, as well.

"Our AMA urges that marijuana's status as a federal Schedule I controlled substance be reviewed with the goal of facilitating the conduct of clinical research and development of cannabinoid-based medicines, and alternate delivery methods. This should not be viewed as an endorsement of state-based medical cannabis programs, the legalization of marijuana, or that scientific evidence on the therapeutic use of cannabis meets the current standards for a prescription drug product." This is grossly different than when they originally read the aforementioned study on glaucoma, when their stance was that the Federal government should keep cannabis as a schedule 1 drug pending further studies. In addition, the AMA has also changed their stance on smoking cannabis. Previously their stance was, "Our AMA believes that the NIH should use its resources and influence to support the development of a smoke free inhaled delivery system for marijuana or delta 9 tetrahydrocannabinol (THC) to reduce the health hazards associated with the combustion and inhalation of marijuana." Tetrahydrocannabinol has been shown to not affect lung functioning and can actually prevent such lung issues as COPD. Because of the this, the AMA has not only changed their stance on the issue of influencing to support the development of a smoke free inhaled delivery system, but the statement in the original study in question is no longer supported. The statement includes, "Long-term clinical effects in humans include respiratory, hormonal, and pulmonary toxic effects, although effects on many other organ systems, including the brain, have been noted. Marijuana smoking leads to emphysema like lung changes that are caused by the products of marijuana burning (i.e., cannabinoids) or through the release of tars,

carcinogens, and other volatile materials, as occurs with tobacco smoke. The latter products, however, occur in greater concentration than in tobacco smoke." The American Medical Association has changed their stance on the inhalation of smoke because of the original study being out of date and new medical evidence being presented. One would be left to assume that a stance made fourteen years ago may have changed currently.

On February 23, 2012, Senator Rick Jones was interviewed about Senate Bill 977. He stated that he had met with multiple medical professionals and not one was able to tell him the benefits of using medical cannabis for the condition of glaucoma. "In fact, a large portion of Glaucoma patients forgo the use of approved treatments, such as eye drops, and exclusively use medical marijuana which increases their risk for permanent visual loss and blindness." However, in the December 2010 issue of the journal, Ophthalmology, a study was done of glaucoma patients who had vision loss and were on eye drops for at least 6 months. The study reveled that patients were not administering their eye drops properly and that the lack of ability to administer them as recommended was resulting in visual loss or blindness. Only 71 percent were able to get a drop into the eye, and only 39 percent did so without touching the bottle to the surface of the eye. Of the 142 people who said they didn't touch their eye with the bottle, 24 percent actually did, according to the videotape. Some were getting multiple drops in the eye, instead of the one drop they were instructed to instill. Also, people over 70 had more trouble than the younger study participants. The researchers concluded that the study showed problems with eye drop waste, potential contamination of the eye drop bottles and poor understanding of the situation among the participants. They recommended that thought be given to the ability of a person to self-administer eye drops and the cost of wasted drops before glaucoma eye drops are prescribed.

While the main associations that have given opinions on the compassionate use of cannabis for Glaucoma patients have all stated that cannabis does work, they state it should also not be used because of the side effects of euphoria, rapid heart rate (in elderly patients), and lowered blood pressure. However, the side effects of frequently prescribed pharmaceutical medications are much worse.

OptiPranolol is an antiglaucoma drop plus a beta-blocker. Drops are taken twice per day. Side affects include and are not limited to: abnormal vision, blepharitis, blurred vision, brow ache, conjunctivis, cough, dizziness, edema, excessive lacrimation, eyelid dermatitis, fatigue, ocular irritation and discomfort, photophonia, sinus bradycardia, & vertigo. Ocular effects include, but are not limited to: transient burning, stinging, and blurred vision. One can also not take this medication if they have experienced or suffer from: Cardiogenic shock, congestive heart failure, diabetes mellitus, hypoglycemia, overt cardiac failure, pheochromocytoma, renal failure, sinus bradycardia, or thryotoxicosis.

Timolol is a beta-blocker in the form of an eye drop for once per day use. Ocular side effects include, but are not limited to: burning, stinging, or itching of the eyes or eyelids, changes in vision, and increased sensitivity of the eyes to light. Side effects (no ocular) are, but are not limited to: changes in blood sugar, cold hands or feet, confusion or hallucinations, difficulty breathing & wheezing, difficulty sleeping and nightmares, dizziness and fainting spells, irregular heartbeat, palpitations, and chest pain, skin rash, itching, and peeling skin, slow heart rate (less than 50 beats per minute), and swelling of the legs or ankles. Under no circumstances can one use Timolol if one is taking the following medications: Atropine, Clonidine, Ergotamine, medications for high blood pressure, medicines for colds and breathing difficulties, medicines for diabetes, medicines for mental depression, medicines for mental problems and psychotic disturbances, medicines to control heart rhythm, or Theophylline.

The two previous medications listed are the most commonly prescribed medications for patients suffering from Glaucoma. Between the side effects, medication counteractions, and the study above regarding eye drops, pharmaceutical medications are more likely to cause adverse reactions, side effects, and risk of blindness than cannabis. I, as a medical marijuana patient, would much rather 'suffer' from euphoria than the symptoms listed above. The definition of euphoria is "is a medically recognized and emotional condition in which a person experiences intense feelings of well-being, elation, happiness, ecstasy, excitement, and joy. While I was researching Glaucoma, I could not find any information from the medical community explaining why euphoria is a bad thing. Cannabis is natures best and most effective medicine for hundreds of conditions, one of them being glaucoma. No information has been properly provided that should qualify Glaucoma to be removed from the lost of qualifying conditions. It is the plea of the Newaygo County Compassion Club that it not be removed from the list.

Whitney Hickman
Newaygo County Compassion Club